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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/271,447	03/18/1999	HIROAKI SATOH	400113/SAHIN	4160

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EXAMINER

CLEVELAND, MICHAEL B

ART UNIT PAPER NUMBER

1762

DATE MAILED: 11/27/2001

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/271,447

Applicant(s)

SATOH, HIROAKI

Examiner

Michael Cleveland

Art Unit

1762

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al. (U.S. Patent 5,858,616, hereafter '616).

'616 teaches depositing a layer that is both an resin (A) composition layer (See col. 4, lines 36-45) and a photosensitive resin (B) composition layer (See col. 2, lines 26-34.) The resin composition includes (a) an acrylic resin is a copolymer with an acid value of 15-200 and a weight average molecular weight of 10,000-150,000 (col. 6, lines 46-59) and (b) a phosphor (i.e., a fluorescent material) (col. 2, lines 26-34). The composition is deposited in cells of a plasma display (col. 14, line 46-col. 15, line 7), exposed (col. 15, lines 8-50), developed (col. 15, lines 51-67), and baked (col. 16, lines 41-48; col. 17, lines 10-13).

Claims 2-5: The viscosity of the polymer composition is 1 to 500 Pa.s (i.e., 1000-500000 mPa.s). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used polymers with similar viscosities to the desired viscosity in order to have reduced the need for viscosity adjusting additives. Such viscosity is controlled via the glass transition temperature of the acrylic polymer (col. 13, lines 17-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have optimized the glass transition temperature in order to have achieved the desired viscosity.

Claims 4 and 6: The composition may contain a polymerization inhibitor (col. 13, lines 20-26).

Claim 5: The solvent may be a polyalkylene glycol (i.e., a polyhydric alcohol), such as those given in col. 12, lines 4-31).

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Claim 6: The composition may contain an ethylenically unsaturated group (col. 7, lines 39-44).

Claim 7: The composition may contain a photopolymerization initiator (col. 2, lines 33-34).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka '616 in view of Koike et al. (U.S. Patent 5,922,395, hereafter '395).

Tanaka '616 is described above. It does not teach that a photosensitive layer (B) is formed after a resin composition layer (A) is formed.

Koike '935 teaches two equivalent embodiments of forming phosphor layers for applications such as plasma display panels (col. 1, lines 7-9). In one (Figs. 1-2), a photosensitive phosphor composition is deposited in the cells of the display panel, exposed and developed (col. 7, lines 8-29). In the other, a phosphor composition layer (7) and a photoresist (i.e., a photosensitive resin) layer are applied. The photoresist layer is exposed, and both layers are developed (col. 8, line 42-col. 9, line 38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a photoresist layer, such as that of Koike '935's second embodiment, on top of the phosphor layer of Tanaka '616 before developing and exposure with the expectation of similar results because Koike '935 teaches the equivalence of depositing a photosensitive phosphor layer, and depositing a phosphor layer followed by a photoresist layer before development in the formation of plasma display panels.

Claims 2-5, 10-13: The viscosity of the polymer composition is 1 to 500 Pa.s (i.e., 1000-500000 mPa.s). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used polymers with similar viscosities to the desired viscosity in

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order to have reduced the need for viscosity adjusting additives. Such viscosity is controlled via the glass transition temperature of the acrylic polymer (col. 13, lines 17-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have optimized the glass transition temperature in order to have achieved the desired viscosity.

Claims 4, 6, 12, 14: The composition may contain a polymerization inhibitor (col. 13, lines 20-26).

Claim 5, 13: The solvent may be a polyalkylene glycol (i.e., a polyhydric alcohol), such as those given in col. 12, lines 4-31).

Claim 6, 14: The resin composition may contain an ethylenically unsaturated group (col. 7, lines 39-44).

Claim 7, 15: The resin composition may contain a photopolymerization initiator (col. 2, lines 33-34).

Response to Arguments

5. Applicant's arguments filed 10/10/2001 have been fully considered but they are not persuasive.

Applicant argues that the anticipation rejection is not valide because Tanaka does not disclose two separate layers. The argument is unconvincing because the claims do not explicitly require that layers (A) and (B) are not the same layer. Even if Applicant amended the claim to so state, such amendment would not overcome the rejections under 35 USC 103.

Applicant argues that Koike teaches that the fluorescent substance is formed above the photosensitive resin rather than below it. The argument is incorrect. See Fig. 4. Layer (7B) is a phosphor (i.e., fluorescent layer) and layer (8) is a photosensitive resin layer, formed above the fluorescent layer.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a): Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (703) 308-2331. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-3186 for regular communications and (703) 306-3186 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

MBC

MBC

November 8, 2001

Shrive P. Beck
SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700